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Fluctuation and knowledge management in non-profit organization

Leona Patočková^{a*}^a*University of Hradec Králové, Faculty of Informatics and Management, Rokitanského 62, Hradec Králové, 500 03, Czech Republic*

Abstract

This paper describes fluctuation of members and use of knowledge management in specific non-profit organization, ESN Buddy System HK, from the Czech Republic. The members' fluctuation is measured and analyzed from the academic year 2007/2008 until the current academic year 2011/2012 and some assumptions are described. The theme fluctuation is completed by knowledge management, one of ways how organization or company can deal with negative impacts of fluctuation. The establishment and using of knowledge management is described and through questionnaires evaluated by organization's management and members. The aim of the research is to use data mining and statistics analysis to find some similarity in members' fluctuation in last 5 academic years, which means 10 measured periods, and use this result and outcome from questionnaires to improve knowledge management in the organization. The findings and improvements will be implemented to ESN Buddy System HK and again reviewed by its new management.

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1. Introduction

Fluctuation and knowledge management are two important issues that affect success and competitiveness of organizations. Chosen organization ESN Buddy System HK (ESN BS HK)(ESN Buddy System HK, 2010) is voluntary non-profit organization. The organization was established at University of Hradec Kralove (UHK), Czech Republic in 2003 from the idea to help foreign students coming to study at the UHK. The organization's members are students of Universities in Hradec Králové, who usually stay at Universities from three to five years. When the organization wants to be better and from year to year improve the service for foreign students, it needs to deal with members' fluctuation. Also the importance of knowledge management is high.

2. Fluctuation

Fluctuation, which is defined as "Change or variation in a quantity over time"(WebFinance, Inc, 2012), is not only what is covered by term employee turnover but also changes on positions and temporary leaves of members. For the research employee turnover is understood as a member turnover. Employee turnover has negative impacts to organizations and so member turnover has, too.

* Corresponding author Leona Patočková. Tel.: +420-493-332-353
E-mail address: leona.patockova@uhk.cz

2.1. Research

Because of the growth of ESN BS HK, the fluctuation has to be measured to find weak points of the organization and give human resources manager exact data. The research was focused on 10 periods – semesters from winter semester of academic year 2007/2008 until summer semester of academic year 2011/2012.

To make an overview of members, internal documents were used. In the organization there is no set structure for the human resources data and that's why some data were missing. To complete the data in the measured period, data mining was used in social networks and databases of students' final reports (Symon, 2007) (Erasmus). Finally there was the database of members and their functions in time.

The database was analyzed and three assumptions were tested. First assumption, taken from (ESN Buddy System HK, 2010), was that the number of ESN BS HK members is constantly growing. Second assumption was that at least 25% of members went abroad for at least one semester through study programs. Third assumption was that members who came to organization in same semester tend to leave in same academic year. Correlation between employee turnover and organizational performance is analyzed in (Hancock, 2011)

2.2. Research Findings

Basic analysis showed the members turnover and fluctuation tendencies at the management positions. In the measured period there were registered 216 members. From them 41 were at least one semester at management position and only 6 of them have experience with more management positions – managers, vice-president, president.

The Table 1 shows that the member turnover rate was in 5 years from 3% to 62% which indicates that the role of human resources manager is high and the organization should concentrate on knowledge management.

Table 1. Member turnover

Semester	Members	1.difference	2.difference	Mean	Abroad	Member Turnover in %
Winter 07/08	47	-	-	41	3	29
Summer 07/08	40	-7	-	31	14	62
Winter 08/09	50	10	17	46	-	20
Summer 08/09	60	10	0	47	12	58
Winter 09/10	43	-17	-27	39	-	23
Summer 09/10	52	9	26	43	3	45
Winter 10/11	73	21	12	72	4	3
Summer 10/11	87	14	-7	71	10	47
Winter 11/12	74	-13	-27	62	3	39
Summer 11/12	62	-12	1	-	7	-

The member turnover is higher in summer semesters (ss) because at the end of academic year members are leaving organization as they are leaving the UHK and Universities in general. The member turnover is shown in percentage; all other values are in amount of members. The values of 1.difference show the semesters' increase respectively decrease in ss 2007/08, winter semester (ws) 2009/10, ws 2011/12 and ss 2011/12. It means that more members left the organization than became new members. The values of 2.difference show the changes in increases resp. decreases.

Also the fluctuation at managers' positions was measured and put to Table 2 in number of members who stayed at specific position for the amount of semesters. Most of managers didn't stay in their positions more than two

semesters – 18 of them were at the position one semester and 13 were at the position 2 semesters, only 9 managers stayed more than one year.

Table 2. Managers' positions

Semesters	Manager	Vice-President	President
For 1 semester	18	1	0
For 2 semesters	13	2	2
For 3 semesters	7	1	2
For 4 semesters	2	0	0

After basic analysis the assumptions were tested. The first assumption (A1) that the number of ESN BS HK members is constantly growing wasn't confirmed. As it shown in Table 1 the number of members is increasing but decreasing, too. A1 is confirmed only in academic year 2008/9 when values of 1.difference are same, so 2.difference in the year is 0.

The second assumption (A2) that at least 25% of members went abroad for at least one semester wasn't confirmed. Only 21.76% was measured in last five academic years. In Table 1 there is shown how many members were abroad in particular semesters. The total amount of members who went abroad is 47. As it's in the Table 3 some members went abroad for more than one semester.

Table 3. Members abroad

Abroad	Members
1 semester	39
2 semesters	7
5 semesters	1

The third assumption (A3) that members who came to organization in same semester tend to leave in the same academic year was confirmed. Leaving tendency is shown in Table 4. All new members from ws 2007/08 left the organization and 15 of them, which is 78.95%, left in same year. In other groups of members are some of them still in the organization.

Table 4. Leaving tendency

Became new members	ws 07/08	ss 07/08	ws 08/09	ss 08/09	ws 09/10	ss 09/10	ws 10/11	ss 10/11	ws 11/12
Amount of new members	19	5	29	19	11	17	39	16	20
Left in same year in %	78,95	60,00	58,62	31,58	45,45	29,41	48,72	37,50	35,00
Still members in %	0,00	20,00	6,90	26,32	9,09	41,18	38,46	31,25	65,00

Finding tendency and rules in members leaving will be aim of future research, when more data will be available.

3. Knowledge management

"Knowledge management refers to a systematic and integrative process of coordinating organization-wide activities of acquiring, creating, storing, sharing, diffusing, developing, and employing knowledge by individuals and groups in pursuit of major organizational"(Rastogi, 2000).

In ESN BS HK there is the knowledge manager position since summer semester 2009/10. Before that semester, each manager was preparing necessary information for a successor. The organization was changing from small group of students, who came with the idea and set the basics, till non-profit organization. Sharing knowledge was

important from the beginning but from certain time, it needs to be managed. Principles of knowledge management are described in (Davenport, 1998). One of principles is that knowledge management never ends.

3.1. Research

The aim of the research was to get members' opinion on knowledge management and sharing knowledge from history of ESN BS HK and find where should the organization improve the knowledge management. The research was done through questionnaires.

Questionnaires were sent by official ESN BS HK Human Resources manager's e-mail address to list of 217 members and former members. Respondents were asked about their role in the organization, then about complexity of information and knowledge sources they got and if they shared their knowledge and improved source of knowledge for future members. They were also asked to evaluate availability of information and transfer of knowledge.

3.2. Research Findings

From 44 filled questionnaires there were 40 respondents with experience in non-management position, 20 respondents with experience in management position and 2 respondents with experience in the highest position - the President of the organization.

The availability of information was on scale from 1 (the best) to 5 (the worst) evaluated with the average result 2.07. The transfer of knowledge was on the same scale evaluated with the average result 2.14. In open questions there were some comments and members' experiences with asked topic, which will be passed to the management of ESN BS HK. Results of the questionnaires are shown in Table 5 showed that most of members got necessary information. Three respondents with experience in management position didn't get any information because they were managers of new field of activity.

Table 5. Results of the questionnaires

Questions/Answers	Non-management	Management	President
Did you get necessary information			
Yes	32	6	1
No	3	1 (3)	0
Partly	5	10	1
Did you improve the information source/knowledge base			
Yes	13	14	0
No	27	6	2

4. Conclusion

The non-profit organization ESN BS HK has high members' turnover from 3% to 62% (see Table 1), when higher members' turnover rates are in summer semesters when members are leaving the Universities. On managers' positions are members from one to four semesters: for managers the average is 1.8 semesters, for vice-presidents the average is 2 semesters and for presidents it is 2.5 semesters (see Table 2). Members are also traveling abroad for study programs (see Table 3).

These findings lead to recommendation to focus on knowledge management and human resources management and work with data obtained by the research. More about importance of knowledge and human resources topics is in (Schmitt, 2003). The organization has its knowledge manager but according to members' responses effective ways for sharing knowledge are still missing. The knowledge management system needs improvements; one can

through digitalization of current sources. Sharing the knowledge base online with all members is step to make members more satisfied with availability of the knowledge base and encourage them to cooperate with improving the base for future semesters. Next semester more detailed questionnaires will be sent to current members and their responses will help to improve specific fields.

Next recommendation based on the experiences from the research is to make database of ESN BS HK members, because the management of organization needs current and complex information about them. The management should identify how many members the organization needs to be able to continue in its activities and improve the quality of services given to foreign students.

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References

- Davenport, T. H. (1998). *Working knowledge: How organization manage what they know*. Boston, MA: Harvard Business School Press.
- Erasmus. (n.d.). Retrieved March 9, 2012, from Erasmus: <http://erasmus-database.naep.cz/modules/erasmus/index.php?country=&city=&school=&homeSchool=12&year=&type=&eile=>
- ESN Buddy System HK. (2010). *ESN Buddy System HK*. Retrieved March 14, 2012, from ESN Buddy System HK: http://www.buddyyhk.cz/index.php?page=aboutus/about_us_what_is_esn_bs
- Hancock, J. I. (2011, October). Meta-Analytic Review of Employee Turnover as a Predictor of Firm Performance. *Journal of Management*.
- Rastogi, P. N. (2000). Knowledge management and intellectual capital: The new virtuous reality of competitiveness. *Human Systems Management*, pp. 39-48.
- Schmitt, N. C. (2003). Personnel selection and employee performance. *Handbook of psychology*, pp. 77-105.
- Symon, M. (2007). *Mobility UHK - Erasmus - Studijní pobyty - Závěrečné zprávy studentů*. Retrieved March 10, 2012, from Mobility UHK - Home: <http://fim.uhk.cz/mobility2/erasmus/studijni-pobyty/zaverecne-zpravy-studentu/r-2009-a-dalsi>
- WebFinance, Inc. (2012). *What is fluctuation? definition and meaning*. Retrieved March 13, 2012, from BusinessDictionary.com - Online Business Dictionary: <http://www.businessdictionary.com/definition/fluctuation.html>